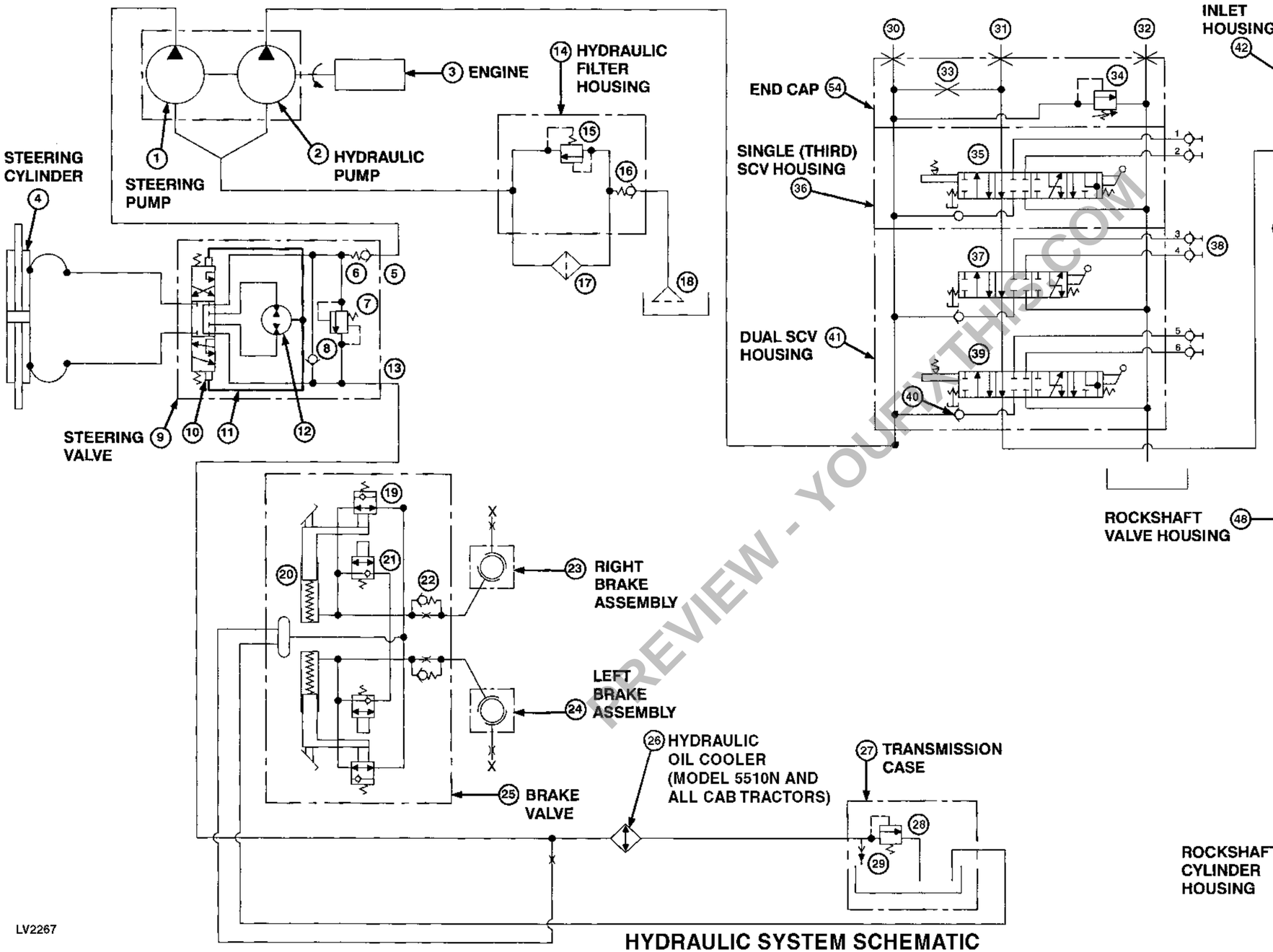
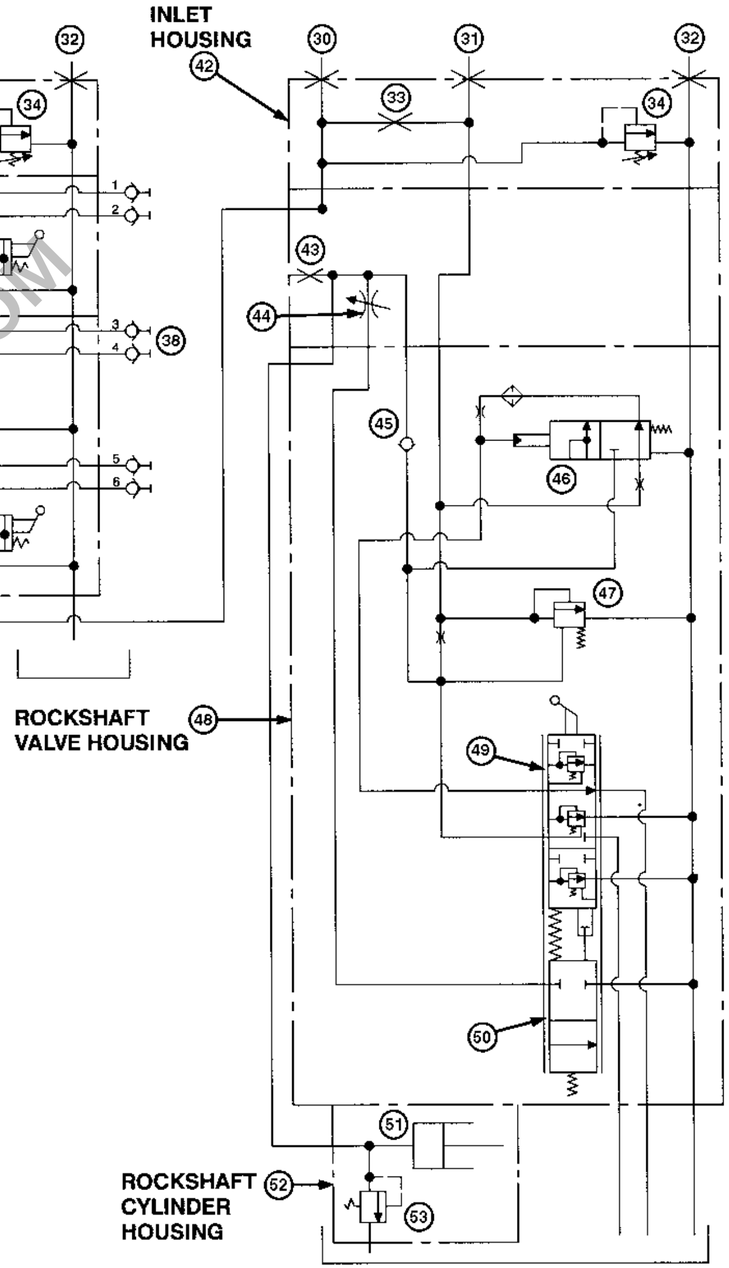




HYDRAULIC SYSTEM SCHEMATIC

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

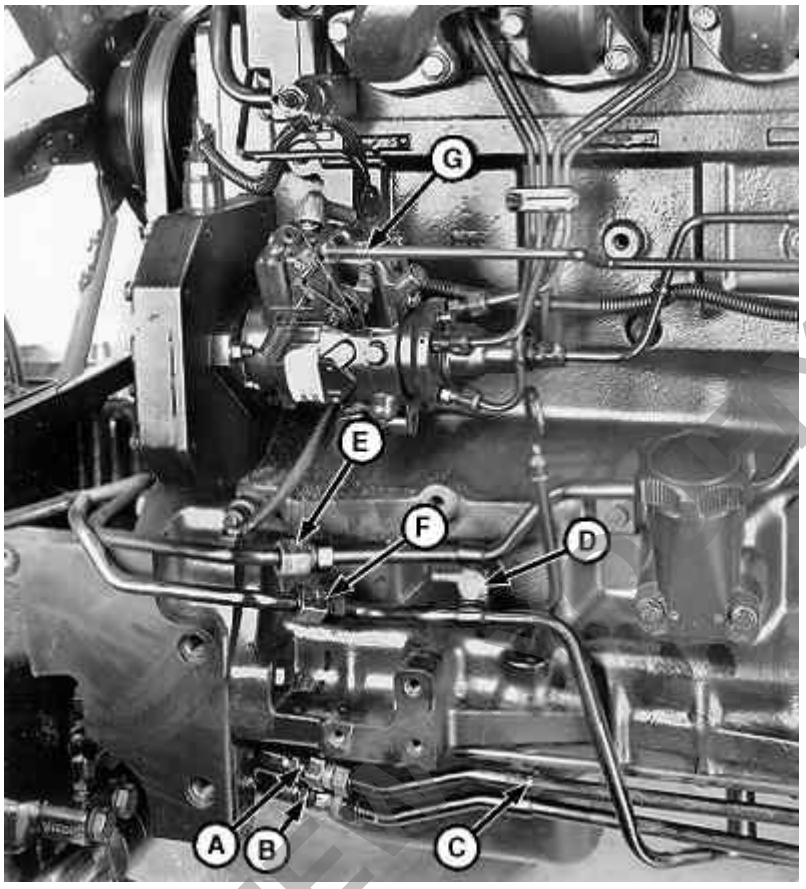
A	Wiring Connector
B	Wiring Connector
C	Fuel Return Line
D	Right-Side Post (at Fuse Link Junction Block)

Disconnect two main harness wiring connectors (A and B).

[12] - Disconnect fuel return hose (C).

[13] - Disconnect red wire lead #002C from right-side post (D) of fuse link junction block.

[14] -



LEGEND:

A	Hydraulic Steering Line
B	Hydraulic Steering Line
C	Clamp
D	Clamp
E	Hydraulic Oil Cooler Line
F	Hydraulic Oil Cooler Line
G	Throttle Control Rod

Disconnect steering hydraulic line (A and B).

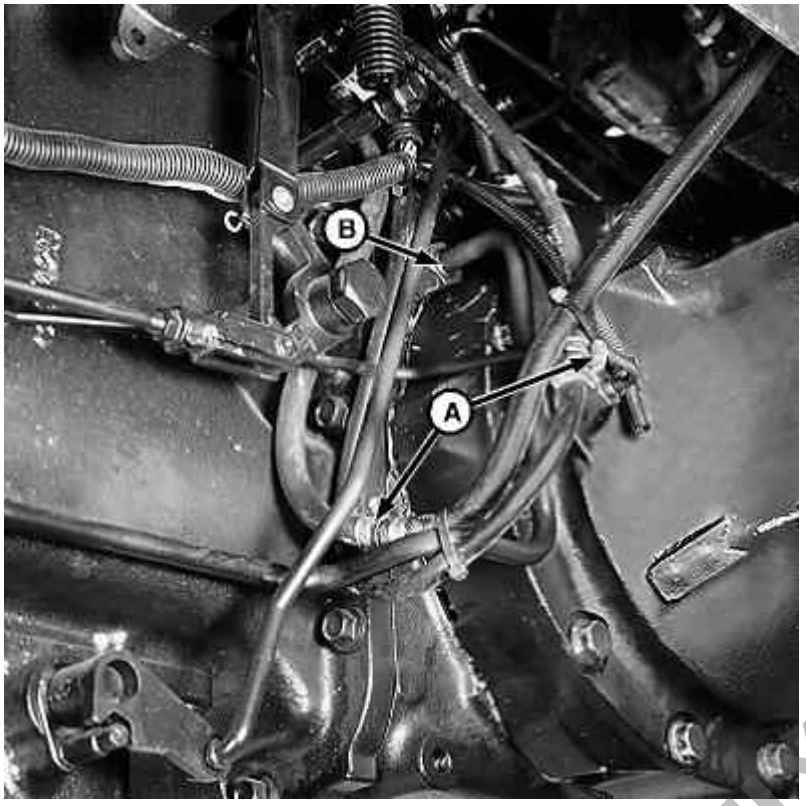
[15] - Remove clamp (C and D).

[16] - Disconnect hydraulic oil cooler lines (E and F).

[17] - Remove throttle control rod (G).

PREVIEW FIXTHIS.COM

Download full manual at youfixthis.com



Drain fuel tank.

→NOTE:

Fuel lines located on left side of tractor by axle final drive housing.

[19] - Disconnect fuel lines (A). Cut tie straps as necessary.

[20] - Disconnect hydraulic line (B).

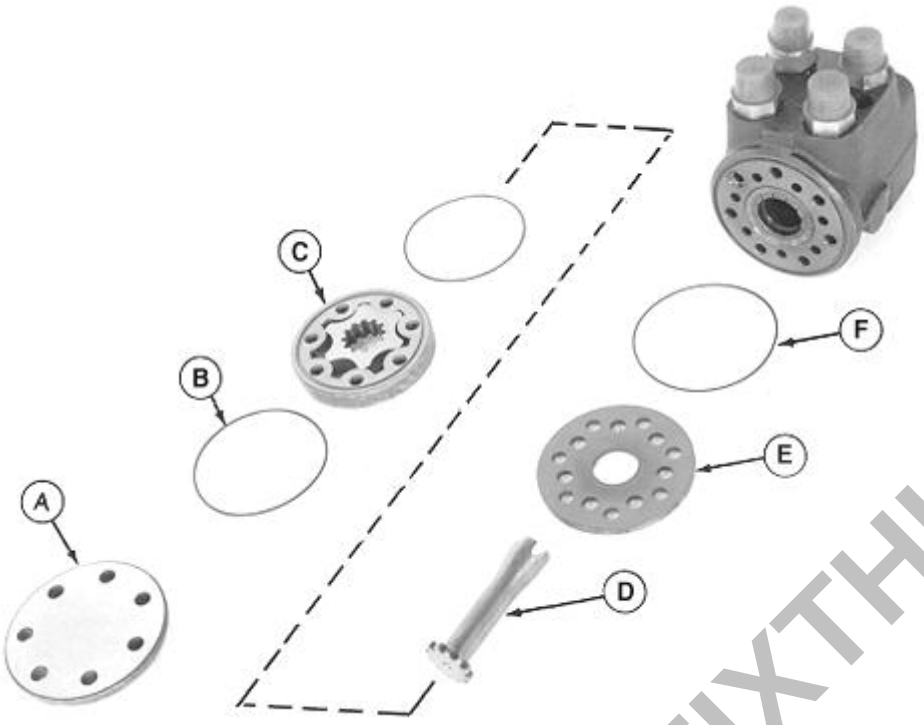
[21] - Remove wire harness from rear of tractor. Cut tie straps as necessary.

[22] -

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[2] -



LEGEND:

A	Cover
B	O-Ring
C	Gerotor Set
D	Drive Shaft
E	Distributing Plate
F	O-Ring

Remove parts (A—F).

[3] -

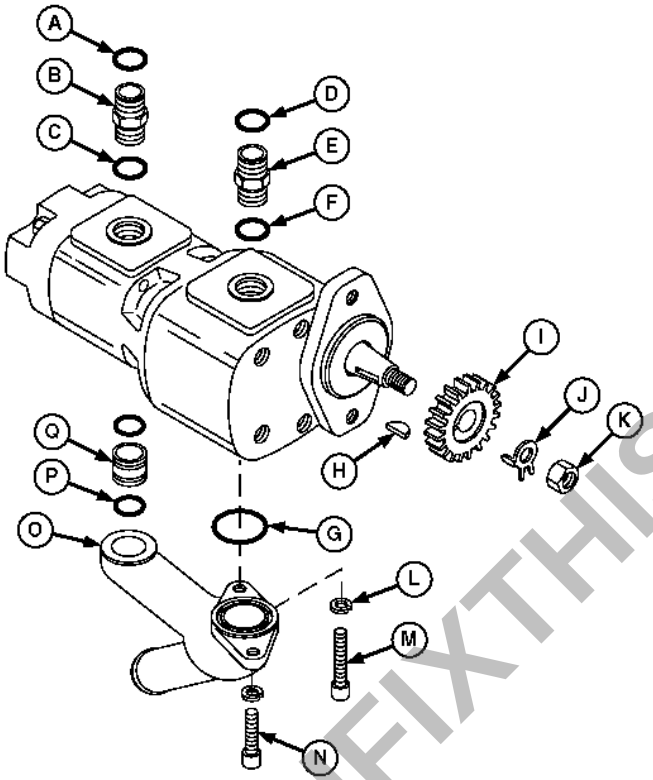


Remove threaded bushing (A) and ball (B).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Remove Hydraulic Pump External Components



LEGEND:

A	O-Ring
B	Rear Fitting
C	O-Ring
D	O-Ring
E	Front Fitting
F	O-Ring
G	O-Ring
H	Woodruff Key
I	Gear
J	Tab Washer
K	Nut
L	Lock Washer (2 used)
M	Socket Head Cap Screw
N	Socket Head Cap Screw
O	Manifold
P	O-Ring (2 used)
Q	Tube

[1] - Remove manifold (O) and tube (Q). Remove O-rings (G and P).

[2] - Flatten tabs of washer (J) with hammer and punch.

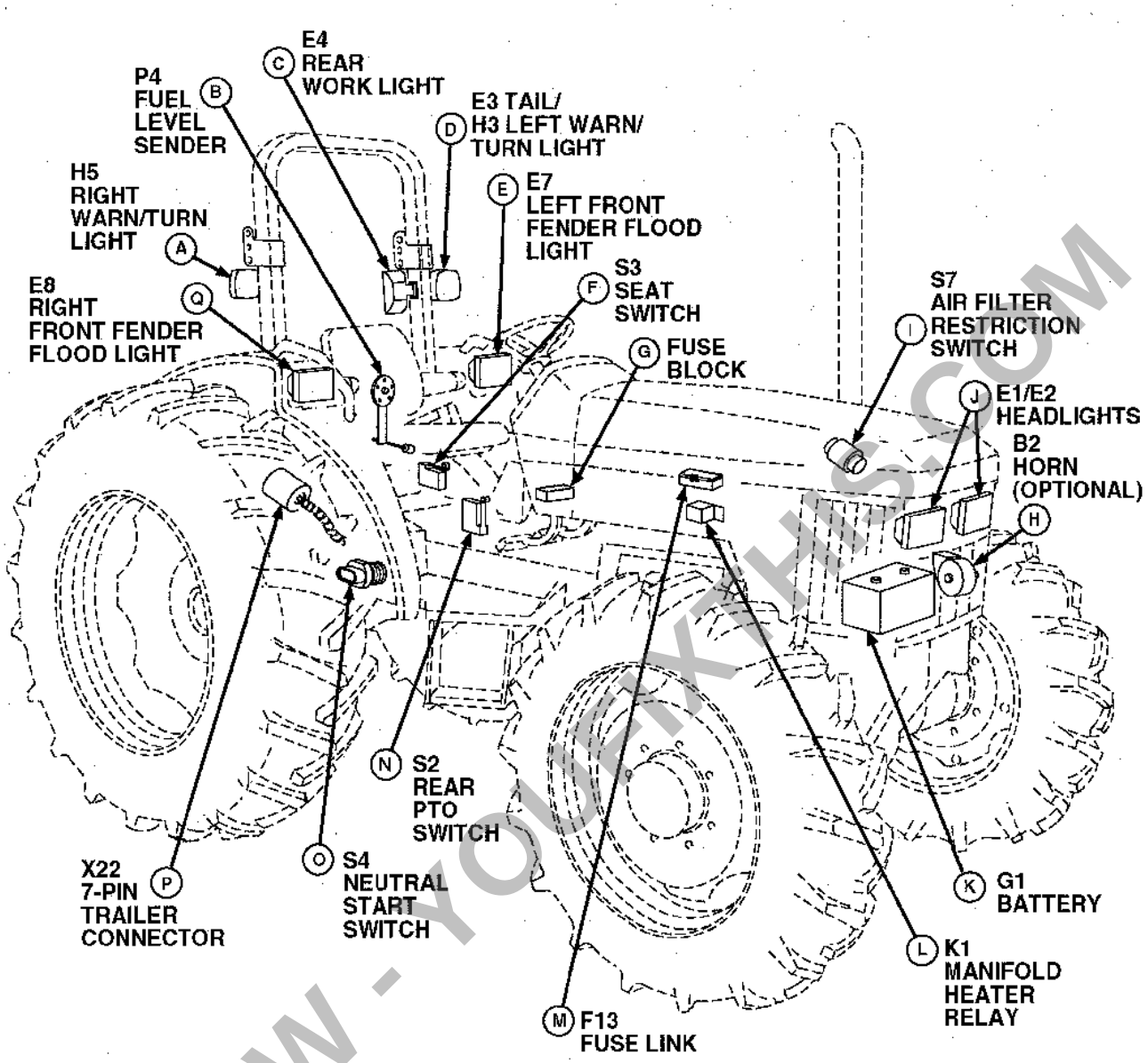
[3] - Remove nut (K) and tab washer.

[4] - Remove gear (I) using a two-jaw puller.

[5] - Remove woodruff key (H).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



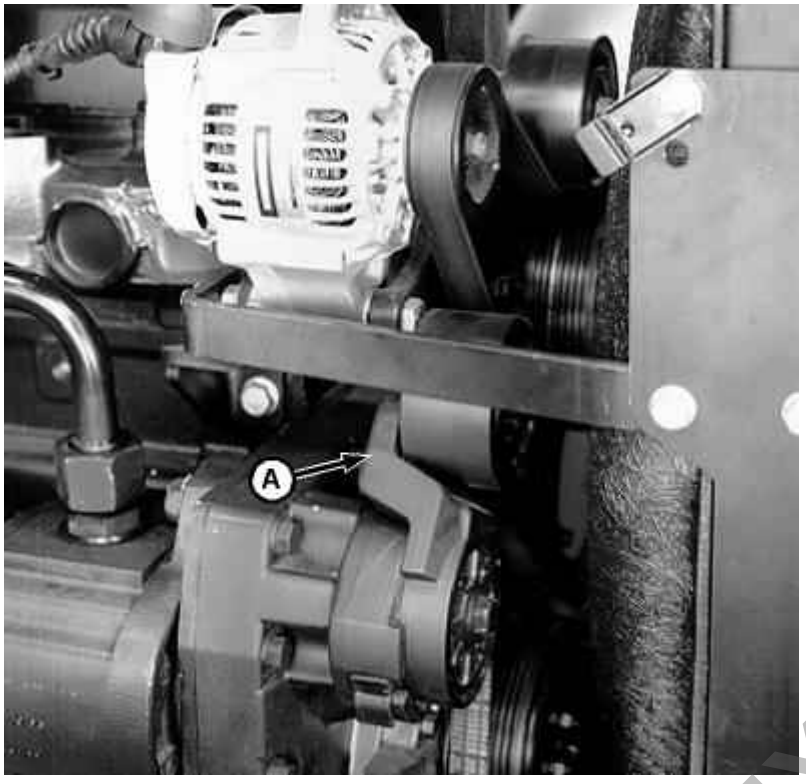
P7166

PREVIEW - YOUFIXTHIS.COM

LEGEND:

A	H5 Right Warn/Turn Light
B	P4 Fuel Level Sender
C	E4 Rear Work Light
D	E3 Tail/H3 Left Warn/Turn Light
E	E7 Left Front Fender Flood Light
F	S3 Seat Switch
G	Fuse Block
H	B2 Horn (Optional)
I	S7 Air Filter Restriction Switch
J	E1/E2 Headlights
K	G1 Battery
L	K1 Manifold Heater Relay
M	F13 Fuse Link
N	S2 Rear PTO Switch
O	S4 Neutral Start Switch

Download full manual at youfixthis.com



CONDITIONS:
- Key switch in off position.
- Engine not run for at least 15 min.
- Transmission in pack position.

PROCEDURE:
- Inspect fan and serpentine belt for damage.
- Check belt tensioner (A) spring tension. (See Section 20, Group 10.)

NORMAL:
- Fan undamaged; no cracks or bent blades.
- Belt not cracked, frayed or glazed.
- Belt does not “squeal” during operation.

IF NOT NORMAL:
- Replace damaged fan or serpentine belt.
- Replace belt tensioner. (See Section 20, Group 10.)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Section 20 - ENGINE REPAIR

Table of contents

Group 05 - Engine 1
John Deere Engine Repair-Use CTM104 1
Remove Engine 2
Install Engine 10
Group 10 - Cooling System 17
Engine Water Pump Repair—Use CTM104 17
Remove and Inspect Radiator 18
Install Radiator 23
Replace Thermostat 28
Inspect and Replace Belt Tensioner 31

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[5] - Disconnect wiring connector (D) and replace key switch.

[6] - Connect wiring connector (D) and wire lead (D).

[7] - Install key switch panel.

[8] - Install nut.

[9] - Connect battery negative (-) cable.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

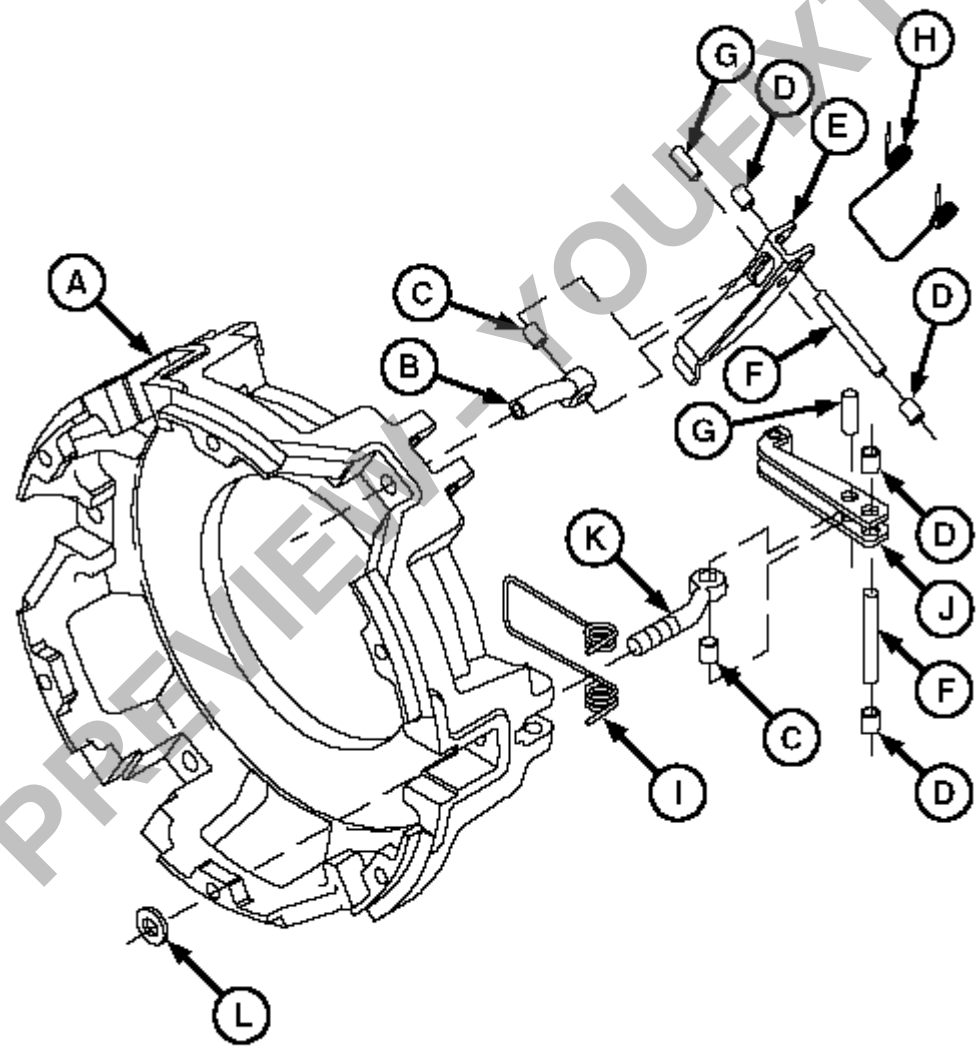
[18] - Measure the thickness of pressure plates at dimensions (A, B and C). Replace parts that are not within specifications

Item	Measurement	Specification
Pressure Plate Minimum Thickness		
Dimension (A)	Thickness	16.2 mm (0.638 in.)
Dimension (B)	Thickness	26.7 mm (1.051 in.)
Dimension (C)	Thickness	15.8 mm (0.622 in.)

[19] -

→NOTE:

PTO clutch and traction clutch finger assemblies are serviced as separate kits. Kits are available through the parts catalog.



LEGEND:

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

C	Actuator Shaft
D	Gasket
E	Gap
F	Depth Micrometer
G	Shim
H	Cover Plates

Adjust park pawl using the following instructions:

a. Remove two cover plates, if installed, to expose the end of park pawl actuator shaft (C).

b. Remove gasket (D).

c. Push park linkage (B) down to fully engage pawl (A) against gear.

d. Push end of park pawl actuator shaft inward to force pawl tight against gear, thus removing any pawl-to-gear free play.

While holding in the actuator shaft, measure gap (E) using a depth micrometer (F).

→NOTE:

Inner cover plate (H) will have one hardened shim (G) already installed from the factory to fill the coined or indented surface on cover plate as shown in bottom photo.

e. If measurement reading is more than 0.10 mm (0.004 in.), add one shim to end of shaft, in addition to existing shim on cover. For a total of three Shims.

If measurement reading in more then 0.508 mm (0.020 in.), add a second shim to end of shaft. For a total of three Shims.

f. Install new gasket (D). Install the two cover plates.

g. Reinstall existing hardened shim (G) in the recess of inner cover plate (H). Put grease on shim to hold in cover plate during installation.

[10] - Install MFWD drop gearbox, if equipped. (See "Remove and Install MFWD Drop Gearbox" in this group.)

[11] - Install side cover or, if equipped, the creeper assembly.(See "Remove and Install Creeper Assembly" in this section, Group 40.)

[12] - Install hydraulic oil filter assembly. (See "Remove and Install Hydraulic Oil Filter/Manifold" in Section 70, Group 05.)

[13] -

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

L	Spring
M	Fork
N	Washer
O	Snap Ring
P	End Cap
Q	Threaded Locking Pin
R	Lock Washer
S	Lock Collar
T	Pin (5615-5715 Tractors)
U	Pedal (5615-5715 Tractors)
V	Lever Extension

[1] - Remove rockshaft case. (See "Remove and Install Rockshaft Case" in Section 70, Group 10.)

[2] - Remove parts (B-F).

[3] - Remove parts (T-Y).

→NOTE:

Bushings (A) are press fit. Remove bushings only if replacement is necessary.

[4] - Replace bushings (A) using a bearing, bushing and seal driver set.

[5] - Pry between differential housing and fork (M) to remove pin (Q) and washer (R).

[6] - Remove parts (G-P).

→NOTE:

To service lock collar (S), remove left-hand brake assembly. (See procedure in Section 60, Group 10.)

[7] - Inspect all parts for wear or damage. Replace as necessary.

IMPORTANT:

Replace seal (I). Damage or used seals will leak.

Replace locking pin (Q). Always use a new pin when assembling shaft and fork.

[8] - Apply multipurpose grease to inside lips of seal (I) and to shoulder bolt (C).

[9] - Apply thread lock and sealer TY9370 (medium strength) to threads of locking pin (Q).

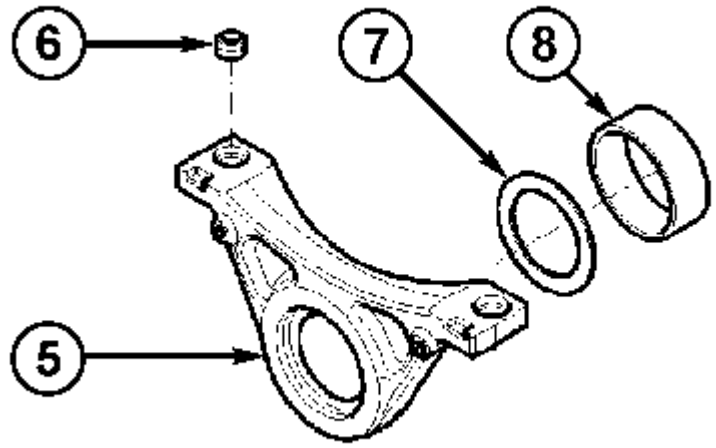
[10] - Install all parts.

[11] - Install rockshaft case. (See "Remove and Install Rockshaft Case" in Section 70, Group 10.)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[8] -



LX1032472

Coat sealing faces of washer (7) lightly with LOCTITE ™ 510 (liquid sealant) and install the washer on bearing support (5).

Heat bearing bushing (8) to approx. 110 °C (230 °F) and press it onto the spigot on bearing support (5) until it is flush.

CAUTION:

Wear heat-resistant gloves.

IMPORTANT:

Overheating will damage the bearing bushing.

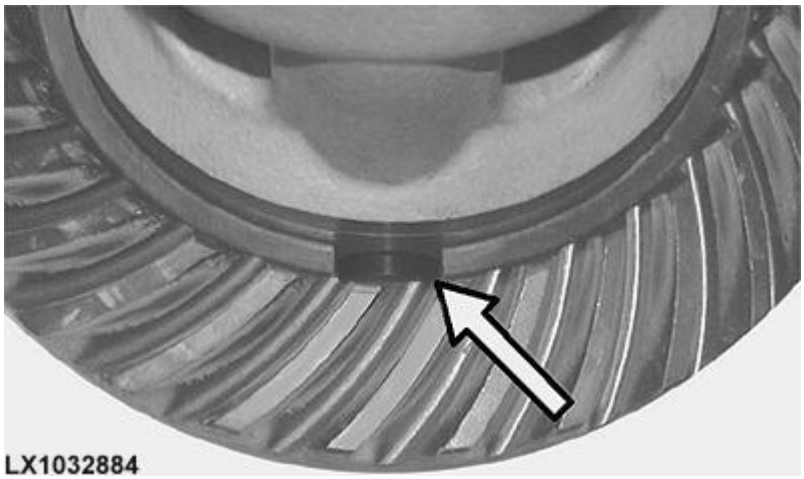
Coat bushings (6) with LOCTITE ™ 510 (liquid sealant) and press them into rear bearing support (5) using an aluminium- or copper-headed hammer.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[4] -

→NOTE:


LX1032884

When putting on the ring gear, pay attention to the location of the cut-outs (see arrow). The cut-outs must be level with the planetary gear pins.

Use special tool KJD10414 to press the ring gear on.

Pressure tool

KJD10414



KJD10414

Pressing the ring gear onto the differential housing

IMPORTANT:

A few blows with an aluminium-headed hammer will ensure that the ring gear has settled and is in proper contact with the flange.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[4] -

IMPORTANT:

Replace all O-rings and seals. Damaged or used O-rings and seals will leak.

Apply clean transmission/hydraulic oil to all parts during assembly.

[5] - Install all parts.

[6] - Tighten cap screws (H) to specification.

Item	Measurement	Specification
MFWD Axle Steering Cylinder Cap Screw	Torque	120 N•m (88 lb-ft)

[7] - Install steering cylinder. (See “Remove and Install Steering Cylinder-MFWD Axle (5415N)” in this group.)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[7] - Check oil cooler for debris lodged in fins. Clean cooler using compressed air or pressure washer.

[8] - Install oil cooler using two cap screws and nuts (C).

[9] - Install two nuts (B) and connect hydraulic lines (A).

[10] - Connect negative (-) battery cable.

[11] - Start engine and operate tractor hydraulics system. Check for leaks. Check and adjust transmission/hydraulic oil level.

[12] - Install right and left-side grille panel.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

should not exceed specification forward and aft.

Item	Measurement	Specification
2WD Axle	End Play	0.8 mm (0.030 in.) maximum

[15] - Axle should oscillate freely. Remove or install shims to maintain end play.

[16] - Tighten cap screws to specification.

Item	Measurement	Specification
2WD Axle Pivot Pin Retainer Cap Screw	Torque	135 N•m (100 lb-ft)

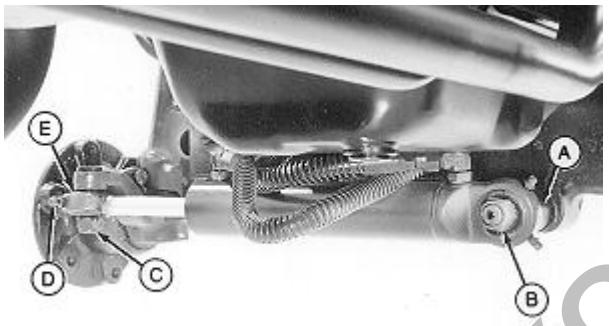
[17] -

→NOTE:

Install spacer (E) between spindle and cylinder rod eye.

Install spacer (A) with tapered end away from axle.

Install cylinder with grease fitting (D) facing away from axle.



LEGEND:

A	Large Spacer
B	Lock Nut
C	Lock Nut
D	Grease Fitting
E	Small Spacer

Install bolts, spacers (A and E), steering cylinder, and lock nuts (B and C).

[18] - Install wheels. Tighten cap screws to specification.

Item	Measurement	Specification
Wheel Cap Screw	Torque	175 N•m (129 lb-ft)

[19] - Lubricate steering cylinder and axle pivot pin grease fittings with multipurpose grease.

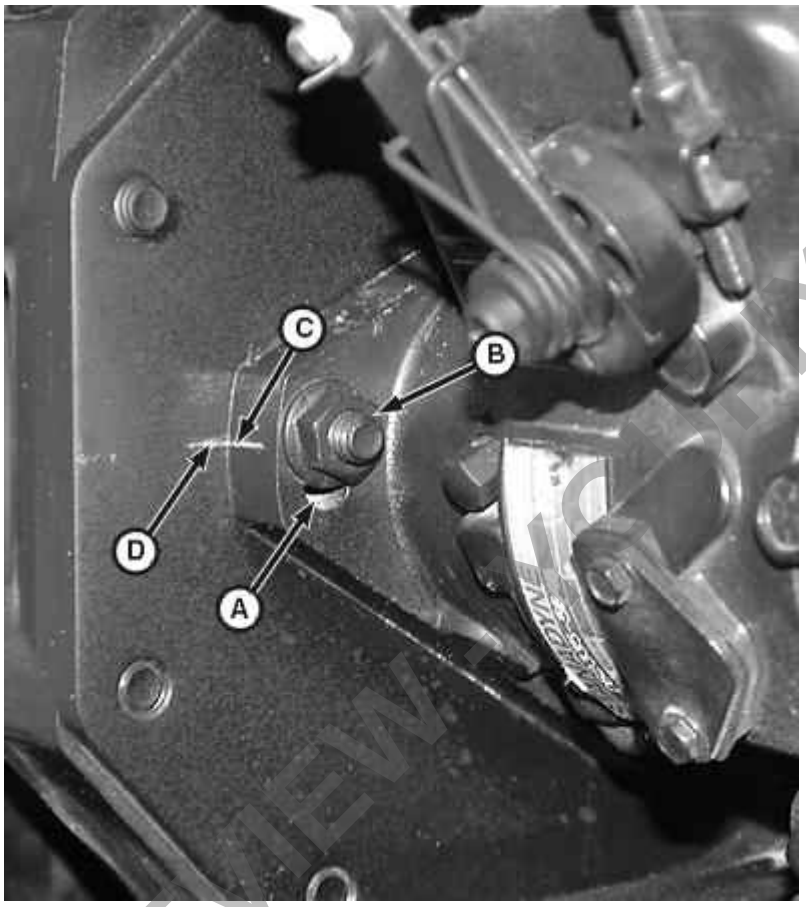
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Injection Pump Timing Adjustment

→NOTE:

This procedure is used if pump timing was disturbed, or a new pump is installed. If a new front plate (without a timing mark) has been installed, see instructions to transfer fuel injection pump timing mark to new front plate in CTM104.



LEGEND:

A	Adjustment Slot
B	Nut (3 used)
C	Pump Housing Alignment Mark
D	Front Cover Alignment Mark

REASON:

To correctly set injection pump timing for proper engine operation.

PROCEDURE:

[1] - Loosen nuts (B) on the three mounting studs.

[2] - Pivot injection pump away from engine as far as slots (A) will allow.

Download full manual at youfixthis.com
PREVIEW YOUFIXTHIS.COM

FUNCTION:
Informs operator of fuel level.

MAJOR COMPONENTS:

- 10-Amp Fuse
- Fuel Gauge
- Fuel Gauge Sender

THEORY OF OPERATION:
Current passes through closed contacts of key switch (D) to circuit 022, then through 10-amp fuse (E) to circuit 072 and into fuel gauge (F). Sensing terminal of gauge connects to fuel level sender (G) through circuit 353.

Sender assembly consists of a movable float mounted to a variable resistor (potentiometer). Resistance of potentiometer on gauge sensing circuit controls the fuel level shown on gauge.

As float moves up or down with changes in fuel level, electrical resistance of potentiometer changes accordingly. When tank is full, resistance is low and gauge needle moves to full position. When tank is empty, resistance is high, and gauge needle moves to empty position. Potentiometer resistance between these two positions varies in direct proportion to changes in fuel level. This allows gauge to accurately display quantity of fuel in tank regardless of its level.

PREVIEW - YOUFIXTHIS.COM

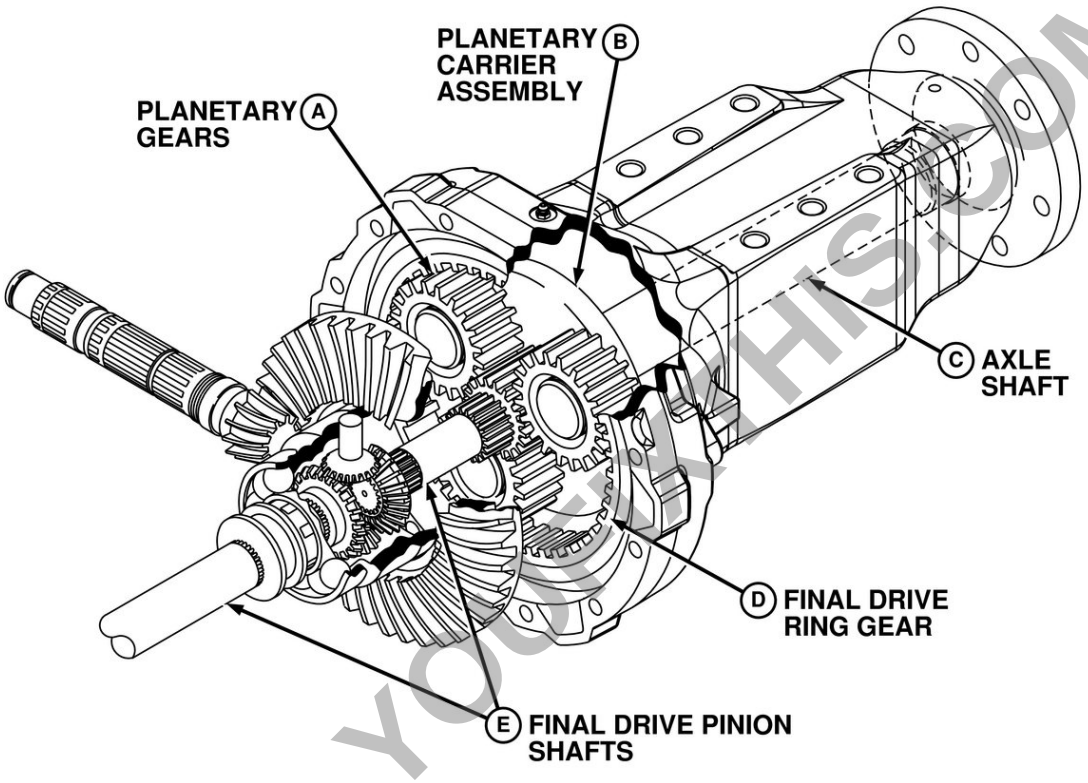
Download full manual at youfixthis.com

- If continuity is not present between terminals listed for each switch position, replace key switch.
- If continuity exists between terminals not listed for each switch position, replace switch.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Final Drive Operation



FINAL DRIVE OPERATION

LEGEND:

A	Planetary Gears
B	Planetary Carrier Assembly
C	Axle Shaft
D	Final Drive Ring Gear
E	Final Drive Pinion Shafts

FUNCTION:

The final drive planetary gives the drive wheels a final speed reduction and increases torque.

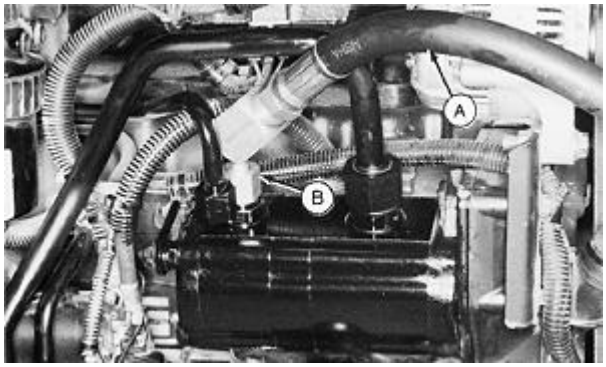
MAJOR COMPONENTS:

- Final Drive Pinion Shafts

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Steering Pump Flow Test



LEGEND:

A	JT05469 Flowmeter
B	JT03368 Pump Adapter

REASON:

To determine if steering pump can provide adequate flow under pressure.

EQUIPMENT:

- JT05469 Flowmeter
- JT03368 Pump Adapter 3/4 FNPT x 13/16-16 FORFS 45° elbow
- (Flowmeter with 37° flare hose) JT03336 Adapter 3/4 MNPT x 3/4-16 M 37° flare
- (Flowmeter with 3/4-16 M ORB hose) JT03123 Adapter 3/4 MNPT x 1/2 FNPT and JT03041 1/2 MNPT x 3/4-16 FORB

CONNECTIONS:

[1] - Remove steering pump outlet line.

[2] - Connect flowmeter inlet hose (A) to adapter (B).

[3] - Install adapter and flowmeter assembly.

[4] - Insert flowmeter return hose into hydraulic oil fill hole.

PROCEDURE:

[1] - Fully open flowmeter control valve.

[2] - Start tractor and run at 2400 rpm.

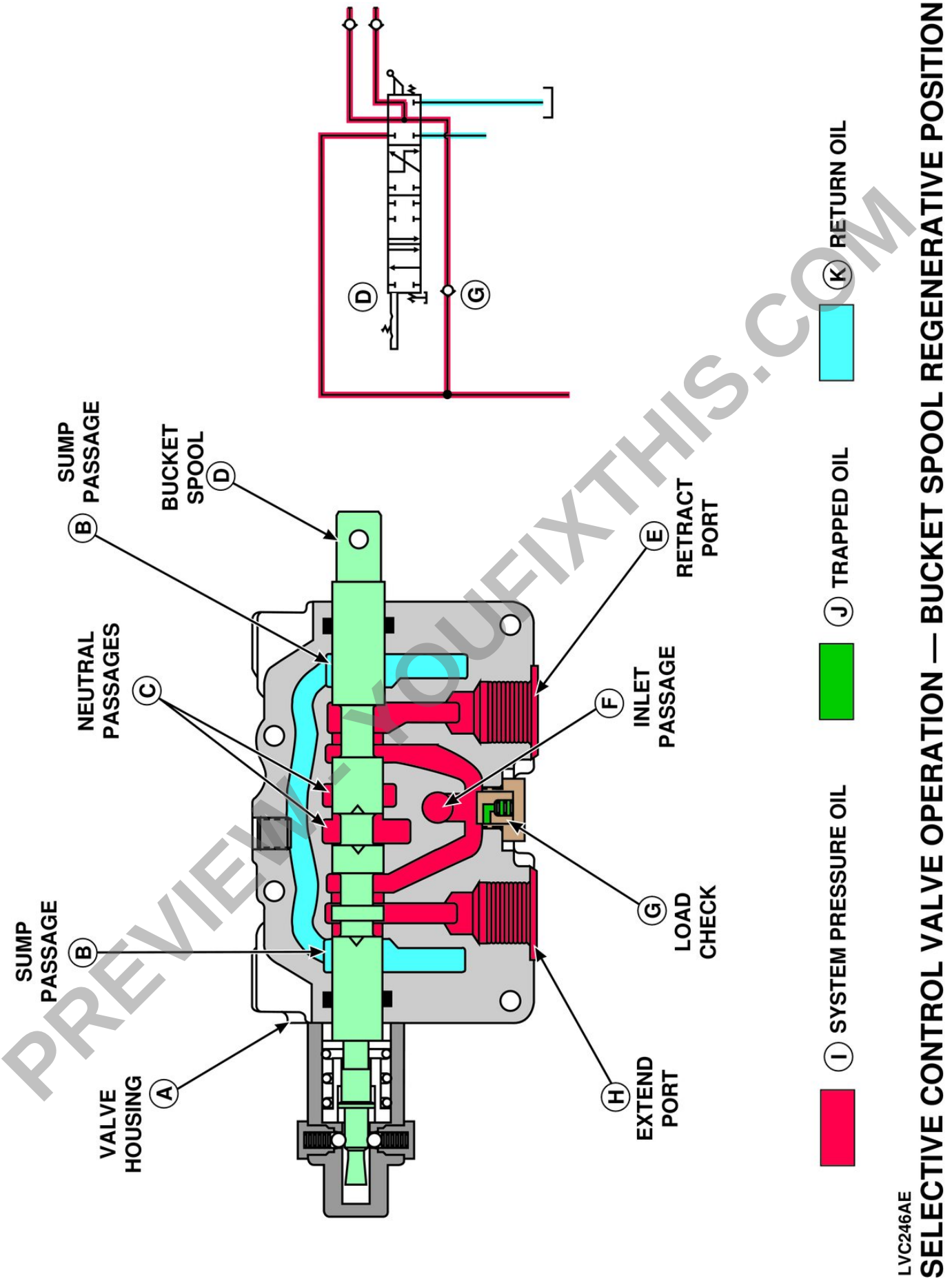
[3] - Slowly close flowmeter control valve until 10345 kPa (103.5 bar) (1500 psi) shows on gauge.

[4] - Observe flow then release pressure.

Item	Measurement	Specification
Flowmeter Control Valve	Flow Rate (All Tractors)	23 Lpm (6 gpm)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Slide LVC246AE

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 24 of 1388 pages

The full manual includes:

- All 1388 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 5415, 5415N, 5415H, 5615, 5615HC, 5715, 5715HC Repair Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual